

---

**SANSUM AT FOOTHILL CENTRE PROJECT  
CITY OF SANTA BARBARA, CALIFORNIA**

---

**TRAFFIC, CIRCULATION, AND PARKING STUDY**

---

---

**November 14, 2011**

**ATE #08121**

---

**Prepared for:**

**The Towbes Group, Inc.  
21 East Victoria Street, Suite 200  
Santa Barbara, CA 93101**

---

**ASSOCIATED TRANSPORTATION ENGINEERS**

100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110-1686 • (805) 687-4418 • FAX (805) 682-8509



# ASSOCIATED TRANSPORTATION ENGINEERS

100 N. Hope Avenue, Suite 4, Santa Barbara, CA 93110 • (805) 687-4418 • FAX (805) 682-8509

Since 1978

Richard L. Pool, P.E.  
Scott A. Schell, AICP, PTP

November 14, 2011

08121R05.WP

Mr. Michael Towbes  
Towbes Group, Inc.  
21 East Victoria Street, Suite 200  
Santa Barbara, CA 93101

## ***TRAFFIC, CIRCULATION, AND PARKING STUDY FOR THE SANSUM AT FOOTHILL CENTRE PROJECT - CITY OF SANTA BARBARA***

Associated Transportation Engineers (ATE) has prepared the following traffic, circulation, and parking study for the Sansum at Foothill Centre Project, located in the City of Santa Barbara. The study evaluates the potential traffic impacts associated with the project under existing and future conditions and identifies improvements where appropriate. The study also addresses comments made by the City's Transportation Division in the DART letter dated September 28, 2011.

Associated Transportation Engineers

Scott A. Schell, AICP, PTP  
Principal Transportation Planner

## CONTENTS

INTRODUCTION .....	1
PROJECT DESCRIPTION .....	1
EXISTING CONDITIONS .....	1
Street Network .....	1
Transit Facilities .....	4
Bicycle Facilities .....	4
Intersection Operations .....	5
IMPACT THRESHOLDS .....	9
City of Santa Barbara Thresholds .....	10
Santa Barbara County Thresholds .....	10
PROJECT-SPECIFIC ANALYSIS .....	11
Trip Generation .....	11
Trip Distribution .....	12
Existing + Project Intersection Operations .....	12
CUMULATIVE ANALYSIS .....	17
Traffic Forecasts .....	17
Intersection Operations .....	17
SITE ACCESS .....	23
FRONTAGE IMPROVEMENTS .....	25
PARKING ANALYSIS .....	25
Proposed Parking Supply .....	25
Zoning Ordinance Parking Requirements .....	25
Peak Parking Demand Forecasts .....	26
MITIGATION MEASURES .....	27
CONGESTION MANAGEMENT PROGRAM ANALYSIS .....	27
Impact Guidelines .....	27
Potential Impacts .....	28
REFERENCES AND PERSONS CONTACTED .....	29
TECHNICAL APPENDIX .....	30

## TABLES

Table 1	Existing Levels of Service .....	9
Table 2	Project Trip Generation .....	11
Table 3	Project Trip Distribution .....	12
Table 4	Existing + Project A.M. Peak Hour Levels of Service .....	16
Table 5	Existing + Project P.M. Peak Hour Levels of Service .....	16
Table 6	Cumulative + Project A.M. Peak Hour Levels of Service .....	22
Table 7	Cumulative + Project P.M. Peak Hour Levels of Service .....	22
Table 8	Proposed Parking Supply .....	25
Table 9	Zoning Ordinance Parking Requirement .....	26
Table 10	Foothill Centre Sansum Medical Complex Peak Parking Demand Forecasts .....	26

## FIGURES

Figure 1	Project Site Location/Existing Street Network .....	2
Figure 2	Project Site Plan .....	3
Figure 3	Study-Area Intersections and Existing Lane Geometries .....	6
Figure 4	Existing A.M. Peak Hour Traffic Volumes .....	7
Figure 5	Existing P.M. Peak Hour Traffic Volumes .....	8
Figure 6	Project Trip Distribution and Assignment .....	13
Figure 7	Existing + Project A.M. Peak Hour Traffic Volumes .....	14
Figure 8	Existing + Project P.M. Peak Hour Traffic Volumes .....	15
Figure 9	Cumulative A.M. Peak Hour Traffic Volumes .....	18
Figure 10	Cumulative P.M. Peak Hour Traffic Volumes .....	19
Figure 11	Cumulative + Project A.M. Peak Hour Traffic Volumes .....	20
Figure 12	Cumulative + Project P.M. Peak Hour Traffic Volumes .....	21
Figure 13	Cumulative + Project Peak Hour Driveway Volumes .....	24

## INTRODUCTION

The following study contains an analysis of the potential traffic and circulation impacts associated with the Sansum at Foothill Centre Project. The report provides information relative to existing and future traffic conditions within the study-area adjacent to the project site. Potential impacts are identified based on the applicable City or County thresholds and mitigations are recommended for identified impacts. The report also contains a review of the project's site access, circulation, and parking plan. An analysis of the project's potential impacts to the Congestion Management Program (CMP) is also provided.

## PROJECT DESCRIPTION

The project is proposing to construct a new Sansum medical complex, consisting of two buildings totaling 61,569 gross SF, on a vacant site located at the southwest corner of the Foothill Road/Cieneguitas Road intersection. The site was previously occupied by a service station and a small specialty retail store, but has remained vacant for several years. The project includes a 41,774 gross SF medical clinic, a 15,375 gross SF surgical center containing 4 operating rooms, and 4,420 gross SF of general office space that would be used by Sansum administrative staff (non-medical). Figure 1 shows the location of the project site within the Santa Barbara area. The project site, which is located within Santa Barbara County, would be annexed into the City of Santa Barbara as part of the project. Access to the site is proposed via two full-access driveways on Cieneguitas Road, and the existing site driveways on Foothill Road would be closed. A total of 225 parking spaces would be provided on site in surface level parking areas. Figure 2 presents the project site plan.

## EXISTING CONDITIONS

### Street Network

The project site is served by a network of highways, arterial streets and collector streets, as illustrated in Figure 1. The following text provides a brief discussion of the major components of the study-area street network.

**U.S. Highway 101**, located south of the site, connects the City of Santa Barbara with Goleta, Buellton, and Santa Maria to the north; and with Montecito, Carpinteria, and Ventura to the south. U.S. Highway 101 is a 6-lane freeway within the project study-area. U.S. Highway 101 provides regional access to the project site via the SR 154 interchange.

**State Route 154 (SR 154)**, located west of the site, is a State Highway that extends on a northwesterly alignment from its junction at State Street in the City of Santa Barbara to the U.S. Highway 101 interchange located three miles west of the community of Los Olivos. Access to the project site from SR 154 is provided via a full-access diamond interchange at Foothill Road-Cathedral Oaks Road.

NOT TO SCALE

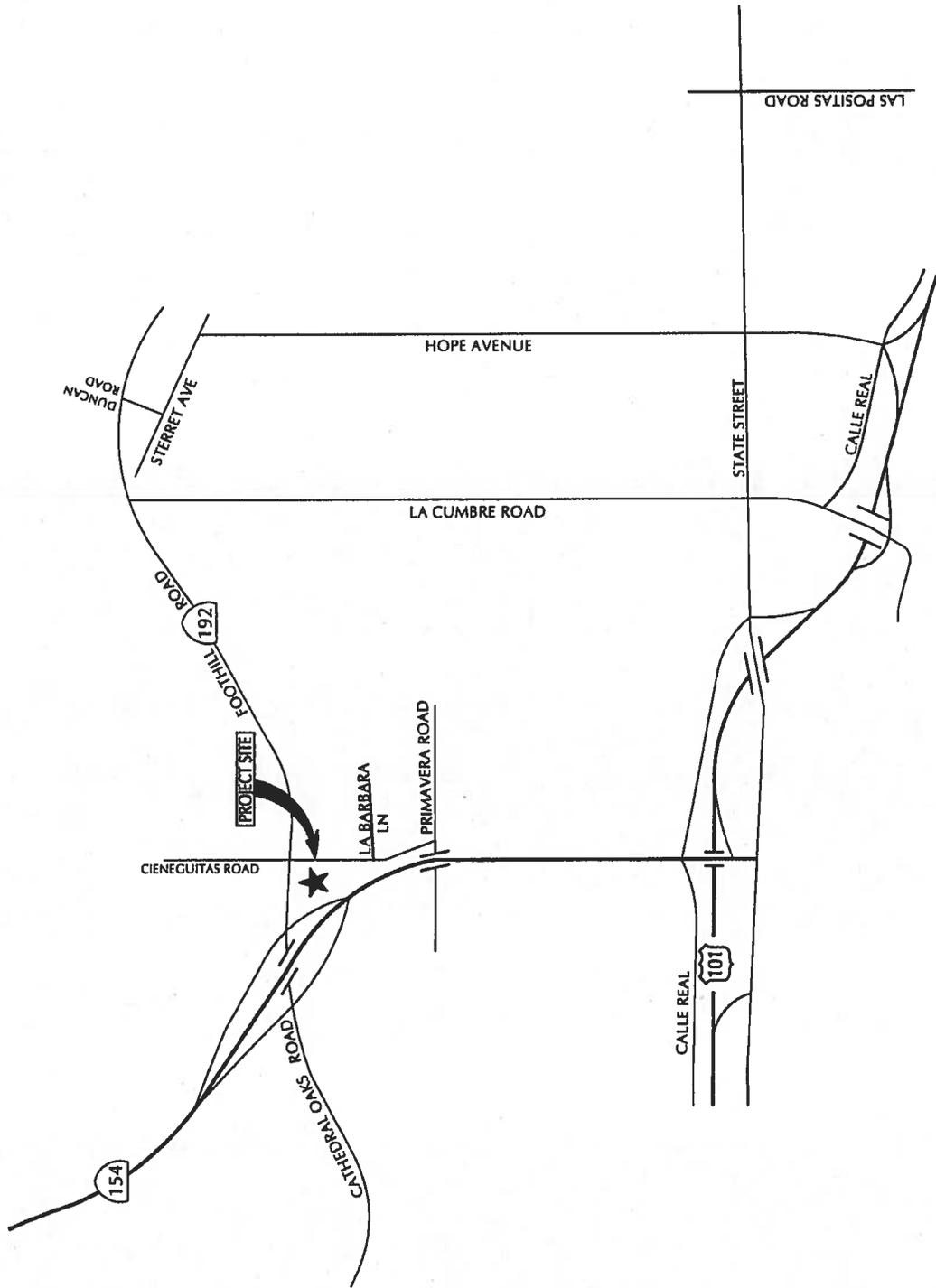


FIGURE 1

EXISTING STREET NETWORK AND PROJECT LOCATION

MMF - #08121

ASSOCIATED  
TRANSPORTATION  
ENGINEERS

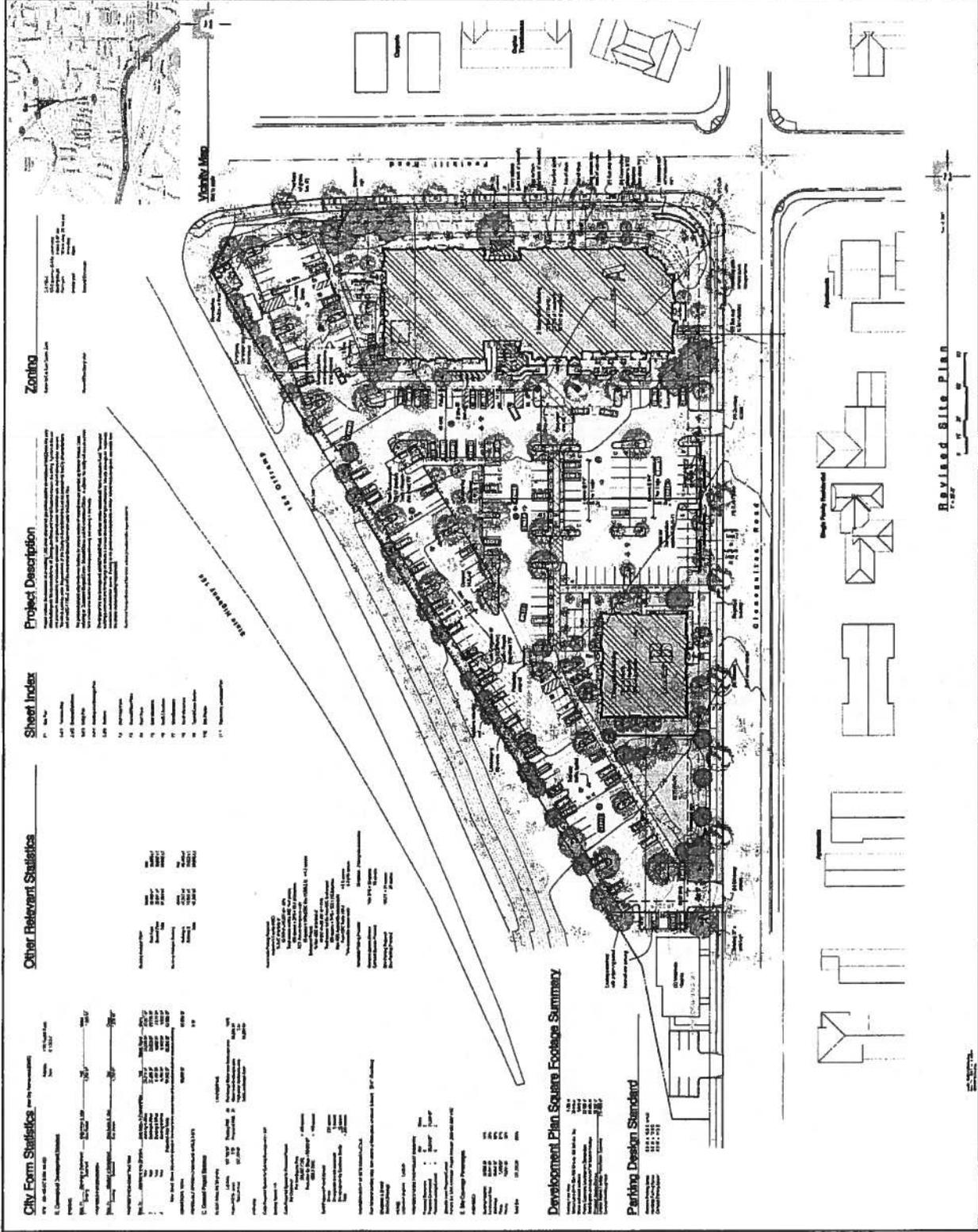
**LMA**  
LAND MANAGEMENT ASSOCIATES

10500 Wilshire Blvd., Suite 2000, Los Angeles, CA 90024  
Tel: 310.206.1100 Fax: 310.206.1101

**Sansum at Foothill Centre**  
4151 Foothill Road  
Berkeley, CA 94710

Development Plan  
Revised Site Plan

**P1**



**Zoning**

Project Description

**Sheet Index**

Sheet No.	Sheet Title
1	Site Plan
2	Site Plan
3	Site Plan
4	Site Plan
5	Site Plan
6	Site Plan
7	Site Plan
8	Site Plan
9	Site Plan
10	Site Plan
11	Site Plan
12	Site Plan
13	Site Plan
14	Site Plan
15	Site Plan
16	Site Plan
17	Site Plan
18	Site Plan
19	Site Plan
20	Site Plan
21	Site Plan
22	Site Plan
23	Site Plan
24	Site Plan
25	Site Plan
26	Site Plan
27	Site Plan
28	Site Plan
29	Site Plan
30	Site Plan
31	Site Plan
32	Site Plan
33	Site Plan
34	Site Plan
35	Site Plan
36	Site Plan
37	Site Plan
38	Site Plan
39	Site Plan
40	Site Plan
41	Site Plan
42	Site Plan
43	Site Plan
44	Site Plan
45	Site Plan
46	Site Plan
47	Site Plan
48	Site Plan
49	Site Plan
50	Site Plan
51	Site Plan
52	Site Plan
53	Site Plan
54	Site Plan
55	Site Plan
56	Site Plan
57	Site Plan
58	Site Plan
59	Site Plan
60	Site Plan
61	Site Plan
62	Site Plan
63	Site Plan
64	Site Plan
65	Site Plan
66	Site Plan
67	Site Plan
68	Site Plan
69	Site Plan
70	Site Plan
71	Site Plan
72	Site Plan
73	Site Plan
74	Site Plan
75	Site Plan
76	Site Plan
77	Site Plan
78	Site Plan
79	Site Plan
80	Site Plan
81	Site Plan
82	Site Plan
83	Site Plan
84	Site Plan
85	Site Plan
86	Site Plan
87	Site Plan
88	Site Plan
89	Site Plan
90	Site Plan
91	Site Plan
92	Site Plan
93	Site Plan
94	Site Plan
95	Site Plan
96	Site Plan
97	Site Plan
98	Site Plan
99	Site Plan
100	Site Plan

**Other Relevant Statistics**

Category	Value
Site Area	1,234,567 sq ft
Building Footprint	567,890 sq ft
Parking Area	123,456 sq ft
Landscaping Area	34,567 sq ft
Other	488,654 sq ft

**Development Plan Square Footage Summary**

Category	Value
Building Footprint	567,890
Parking	123,456
Landscaping	34,567
Other	488,654
<b>Total</b>	<b>1,214,567</b>

**Parking Design Standard**

Category	Value
Standard	1.5
Other	0.5
<b>Total</b>	<b>2.0</b>

**FIGURE 2**

**PROJECT SITE PLAN**



ASSOCIATED  
TRANSPORTATION  
ENGINEERS

MMF-#08121

**Foothill Road (SR 192)**, located along the project's northern frontage, is an east-west, two-lane State Highway that extends east from SR 154 through Santa Barbara and continues through Montecito, Summerland, and Carpinteria to its terminus at SR 150 east of Carpinteria. This roadway is named Cathedral Oaks Road west of the SR 154 interchange.

**Cathedral Oaks Road**, located west of the site, extends west of the SR 154 interchange through the Goleta area. The roadway is a four-lane arterial west of the SR 154 interchange and varies from two to four lanes through the Goleta area.

**Cieneguitas Road**, located along the project's eastern frontage, is a two-lane street that extends from Primavera Road on the south to its terminus at the Trinity Baptist Church north of Foothill Road. The project is proposing to construct two full-access driveways on Cieneguitas Road.

**State Street**, located south of the site, is a four-lane arterial that traverses the City's mid-town and downtown commercial areas. State Street also extends west from SR 154, where it becomes Hollister Avenue and continues through the Goleta area.

**La Cumbre Road**, located east of the project site, is a two-lane road that extends between Foothill Road on the north and State Street on the south. La Cumbre Road continues as a four-lane arterial south of State Street to U.S. Highway 101.

**Hope Avenue**, located west of the project site, is a two-lane road that extends between Sterret Avenue on the north and U.S. Highway 101 on the south.

### **Transit Facilities**

A Metropolitan Transportation District (MTD) stop is located on the southwest corner of the Foothill Road/Cieneguitas Road intersection. This stop is served by Line 10, which runs between Dos Pueblos High School and the State Street/La Cumbre Road intersection. MTD riders from Goleta would use Line 10 to travel to/from the site. MTD riders from the San Roque, Mesa and downtown areas would use Line 3 (Oak Park), Line 5 (Mesa/La Cumbre), Line 6 (State/Hollister/UCSB/Airport), Line 8 (Calle Real) or Line 11 (UCSB) and transfer to Line 10 at the State Street/La Cumbre Road stop to travel to/from the site.

### **Bicycle Facilities**

Several bicycle facilities are located within the study area. These include the on-street bike lanes (Class II) on Cathedral Oaks Road, State Street, La Cumbre Road, and Hope Avenue; and Cieneguitas Road (Class III). The project proposes to provide 24 bicycle parking spaces.

## Intersection Operations

Because traffic flow on urban arterials is most constrained at intersections, detailed traffic flow analyses focus on the operating conditions of critical intersections during peak travel periods. In rating intersection operations, "Levels of Service" (LOS) A through F are used, with LOS A indicating free flow operations and LOS F indicating congested operations (more complete definitions of levels of service are included in the Technical Appendix). LOS C (or better) is considered as acceptable operations by the City and the County.

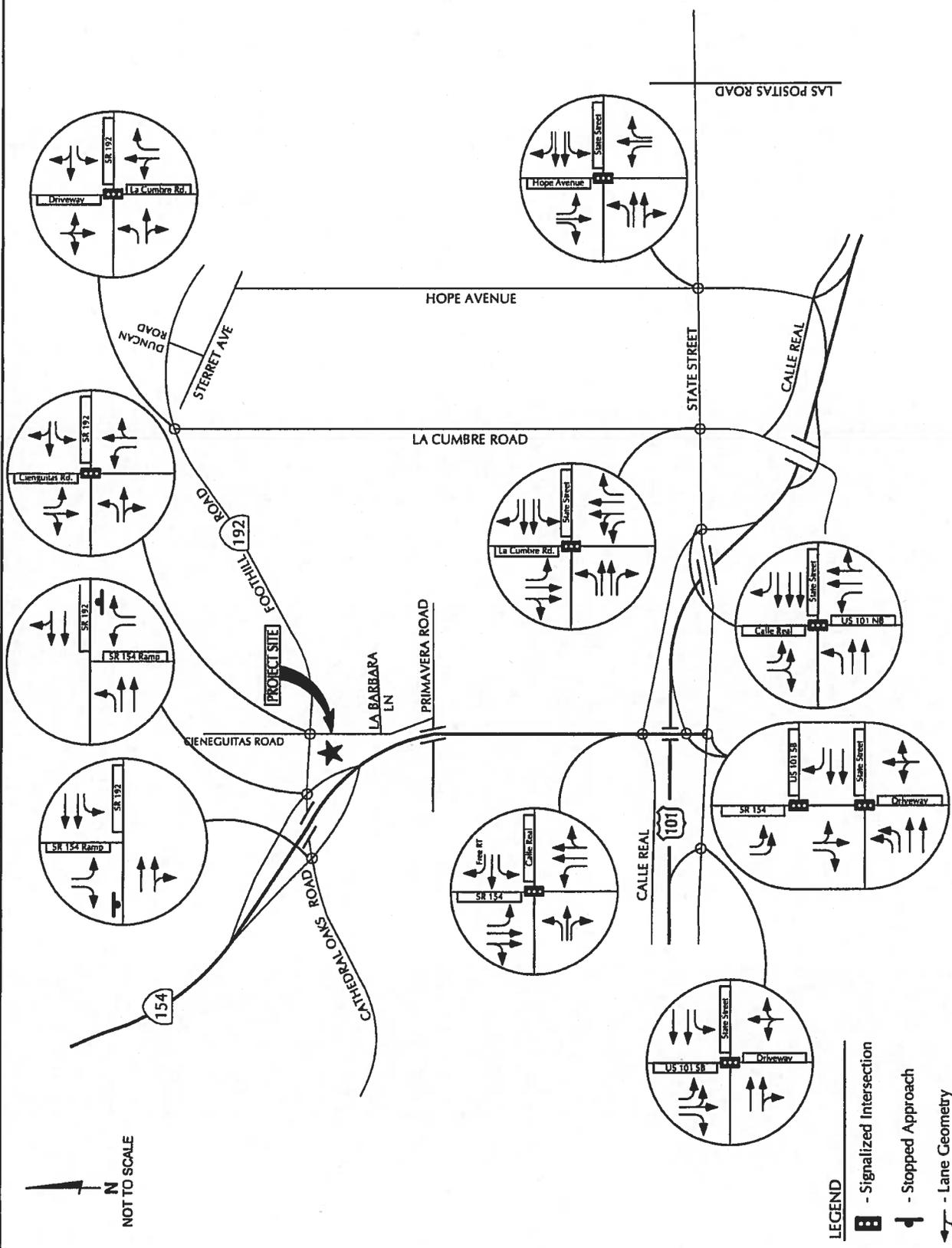
Figure 3 shows the traffic controls and lane geometries for the study-area intersections identified for analysis. Existing A.M. and P.M. peak hour traffic volumes are shown in Figures 4 and 5. The peak hour volumes were collected by ATE in May 2009, by Caltrans in April 2008, and by the City of Santa Barbara in March 2008 (traffic count data is contained in the Technical Appendix for reference).

Levels of service were calculated for the signalized intersections using the "Intersection Capacity Utilization" (ICU) methodology and levels of service were calculated for the unsignalized intersections using the Highway Capacity Manual<sup>1</sup> (level of service calculation worksheets are contained in the Technical Appendix for reference). Table 1 presents the Existing A.M. and P.M. peak hour levels of service for the study-area intersections.

---

<sup>1</sup> Highway Capacity Manual, Transportation Research Board, National Research Council, 2010.

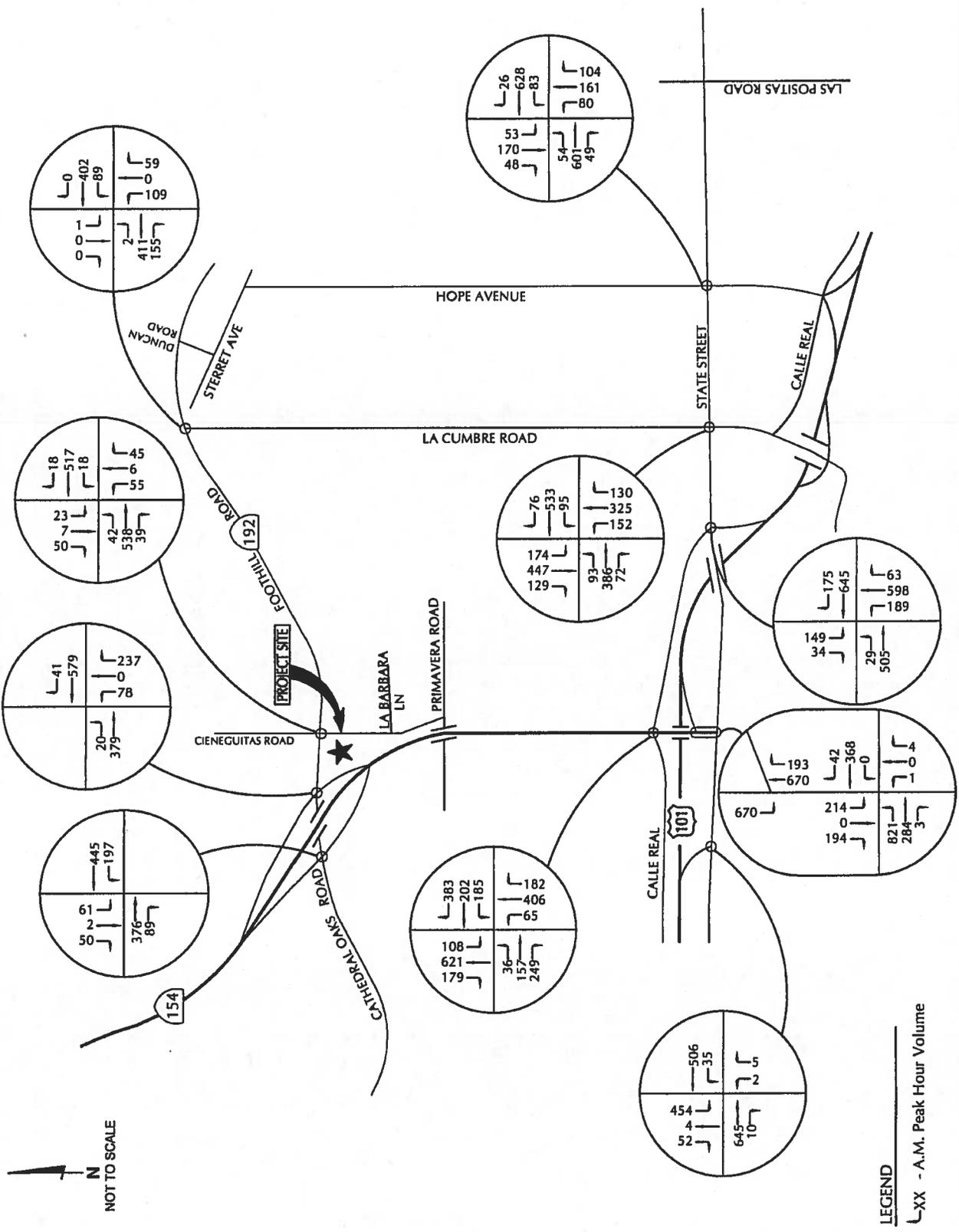
STUDY-AREA INTERSECTIONS AND EXISTING LANE GEOMETRIES



ASSOCIATED  
TRANSPORTATION  
ENGINEERS



EXISTING A.M. PEAK HOUR TRAFFIC VOLUMES



NOT TO SCALE

ASSOCIATED  
 TRANSPORTATION  
 ENGINEERS



**Table 1  
Existing Levels of Service**

Intersection	Jurisdiction	A.M. Peak Hour		P.M. Peak Hour	
		V/C	LOS	V/C	LOS
SR 154 SB Ramps/Cathedral Oaks Road <sup>(a)</sup>	County	13.8 Sec.	LOS B	13.5 Sec.	LOS B
SR 154 NB Ramps/Foothill Road <sup>(a)</sup>	County	13.0 Sec.	LOS B	13.7 Sec.	LOS B
Cieneguitas Road/Foothill Road	County	0.514	LOS A	0.597	LOS A
SR 154/Calle Real	City/County	0.589	LOS A	0.536	LOS A
U.S. 101 SB On Ramp-State Street/SR 154	City/County	0.689	LOS B	0.648	LOS B
U.S. 101 SB Off Ramp/State Street	City/County	0.467	LOS A	0.529	LOS A
U.S. 101 NB Off Ramp-Calle Real/State Street	City	0.528	LOS A	0.615	LOS B
Foothill Road/La Cumbre Road	County	0.547	LOS A	0.601	LOS A
State Street/La Cumbre Road	City	0.608	LOS B	0.679	LOS B
State Street/Hope Avenue	City	0.515	LOS A	0.663	LOS B

(a) Unsignalized intersection LOS based on average delay per vehicle in seconds.

The data presented in Table 1 show that the study-area intersections operate at LOS B or better during the A.M. and P.M. peak hour periods, which are considered acceptable based on City and County standards. The levels of service shown in the tables are based on the peak 1-hour period. Field observations found that there is a spike in traffic within the Foothill Road corridor related to the beginning of classes at La Colina Junior High School, which is located between Cieneguitas Road and La Cumbre Road. The traffic peak occurs for a 15-20 minute period and then returns to more evenly distributed traffic flows.

### IMPACT THRESHOLDS

Some of the study-area intersections are located within the City of Santa Barbara and some are located within the jurisdiction of the County of Santa Barbara. City of Santa Barbara thresholds were applied to intersections within the City and County of Santa Barbara thresholds were applied to intersections within the County. The traffic impact thresholds are outlined below.

## City of Santa Barbara Thresholds

### *Project-Specific Threshold*

The City's project-specific impact threshold states that if a development project would cause the V/C ratio at an intersection to exceed 0.77, or if the project would increase the V/C ratio at intersections which already exceed 0.77 by 0.01, the project's impact is considered significant. For unsignalized intersections, an average delay of 22 seconds per vehicle is considered to be the minimum standard and a significant impact is considered to have occurred if a project increases the amount of traffic traveling through an intersection by greater than one percent (0.01).

### *Cumulative Threshold*

The City's cumulative impact threshold states that if a development project would add traffic to an intersection which is forecast to operate above V/C 0.77 with cumulative traffic volumes, the project's contribution is considered a significant cumulative impact.

## Santa Barbara County Thresholds

### *Significant Adverse Impacts*

- A. If the addition of project traffic to an intersection increases the volume to capacity (V/C) ratio by the values provided in the following table, the impact is considered significant.

Significant Changes in Levels of Service	
Intersection Level of Service (Including Project)	Increase in V/C or Trips Greater Than
LOS A	0.20
LOS B	0.15
LOS C	0.10
LOS D	15 Trips
LOS E	10 Trips
LOS F	5 Trips

- B. The project's access to a major road or arterial road would require access that would create an unsafe situation, a new traffic signal or major revisions to an existing traffic signal.
- C. The project adds traffic to a roadway that has design features (e.g., narrow width, road-side ditches, sharp curves, poor sight distance, inadequate pavement structure) that would become a potential safety problem with the addition of project traffic.

- D. Project traffic would utilize a substantial portion of an intersection's capacity where the intersection is currently operating at acceptable levels of service but with cumulative traffic would degrade to or approach LOS D (V/C 0.81) or lower. Substantial is defined as a minimum change of 0.03 for an intersection which would operate from 0.80 to 0.85, a change of 0.02 for an intersection which would operate from 0.86 to 0.90 and a change of 0.01 for an intersection which would operate greater than 0.90.

## PROJECT-SPECIFIC ANALYSIS

### Trip Generation

Trip generation estimate for the office component of the project were calculated using the General Office (Land Use #710) rates contained in the Institute of Transportation Engineers (ITE) Trip Generation Manual<sup>2</sup>. Trip generation estimates were developed for the medical clinic based on studies conducted at the existing Sansum facility located on Pesetas Lane (data contained in Technical Appendix for reference). This approach was used as the ITE manual has a limited number of studies for medical clinics and contains no A.M. peak hour data. The trip generation estimates for the surgery center component were also developed based on local studies (data contained in Technical Appendix for reference), as the ITE manual contains no data for surgical centers. Table 2 shows the average daily, A.M. peak hour and P.M. peak hour trip generation estimates for the project.

**Table 2  
Project Trip Generation**

Land Use	Size	Average Daily		A.M. Peak Hour		P.M. Peak Hour	
		Rate	Trips	Rate	Trips (In/Out)	Rate	Trips (In/Out)
Medical Clinic	41,774 SF	24.54	1,025	5.11	213 (153/60)	4.05	169 (52/117)
Surgery Center	4 Operating Rooms	33.62	134	5.50	22 (13/9)	3.22	13 (3/10)
General Office	4,420 SF	11.01	49	1.55	7 (6/1)	1.49	7 (1/6)
<b>Total</b>			<b>1,208</b>		<b>242 (172/70)</b>		<b>189 (56/133)</b>

As shown in Table 3, the project is forecast to generate 1,208 average daily trips, 242 A.M. peak hour trips and 189 P.M. peak hour trips.

<sup>2</sup> Trip Generation, Institute of Transportation Engineers, 8<sup>th</sup> Edition, 2008.

## Trip Distribution

Project-generated traffic was distributed and assigned to the adjacent street network based on the percentages shown in Table 3. The trip distribution percentages were developed based on existing traffic patterns, consideration of population centers in the surrounding area, and using information contained in traffic studies for other projects in the area. Figure 6 shows the assignment of project traffic at the study-area intersections.

**Table 3**  
**Project Trip Distribution**

Origin/Destination	Direction	Percentage
U.S. Highway 101	East of SR 154	24%
	West of SR 154	30%
SR 154	North	5%
State Street e/o Hope Avenue	East	3%
State Street w/o State Route 154	West	4%
Foothill Road (SR 192)	East	14%
Cathedral Oaks Road (SR 192)	West	14%
La Cumbre Road	South	1%
Calle Real	West	1%
Local Traffic	-	4%
<b>TOTAL</b>		<b>100%</b>

## Existing + Project Intersection Operations

Levels of service were calculated for the study-area intersections assuming the Existing + Project traffic volumes presented on Figures 7 and 8. Tables 4 and 5 compare the Existing and Existing + Project levels of service and identify project-specific impacts based on the applicable City and County thresholds.

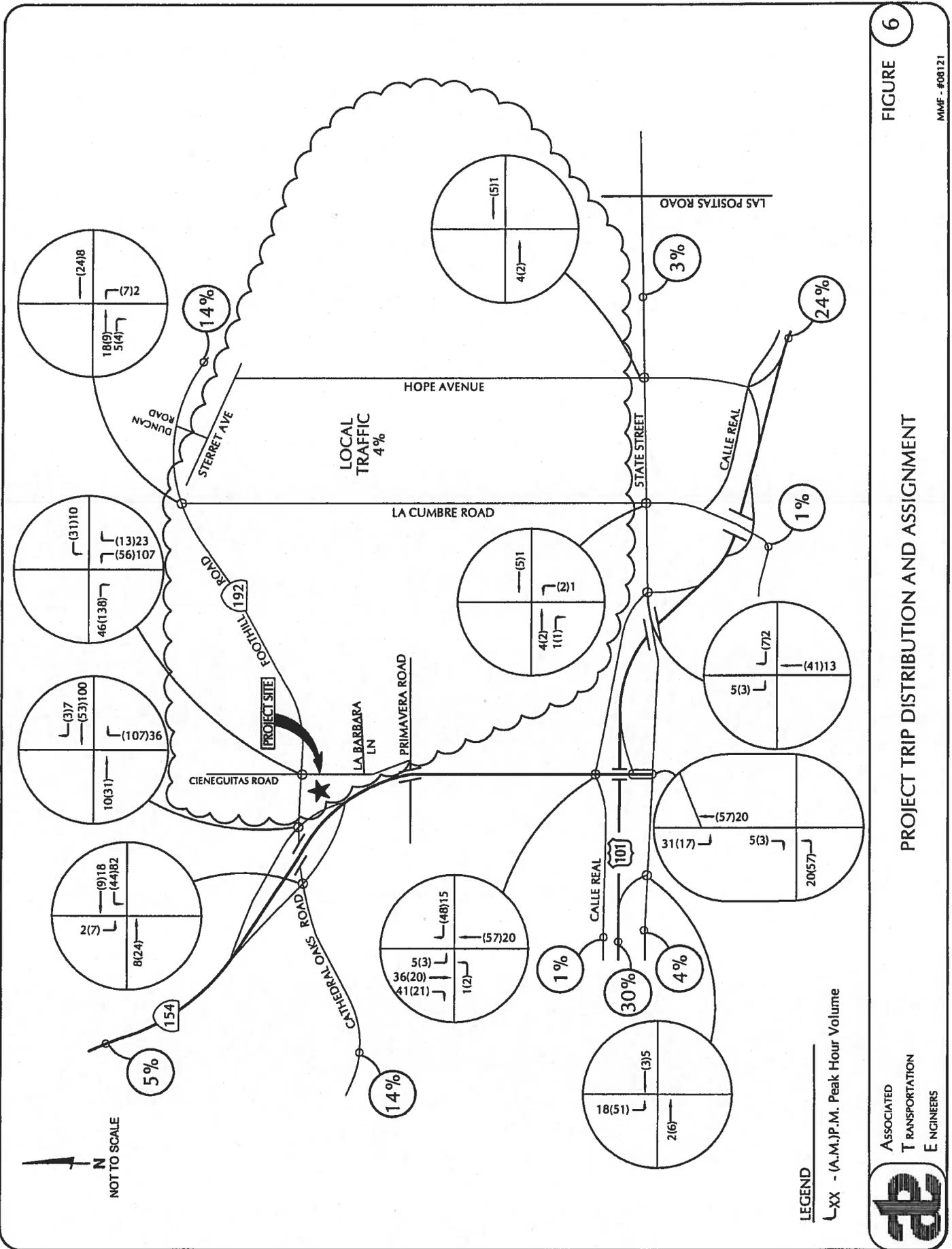
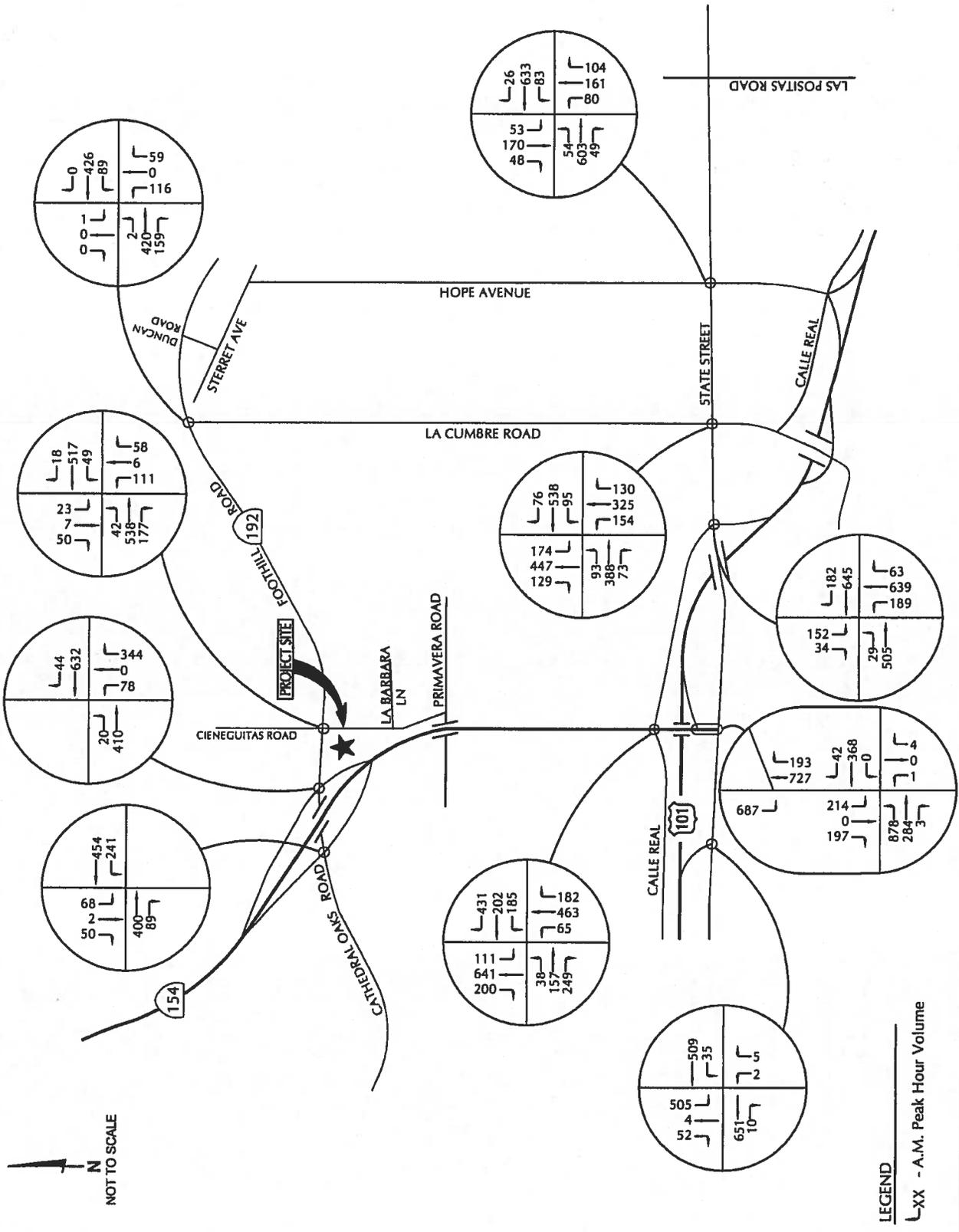


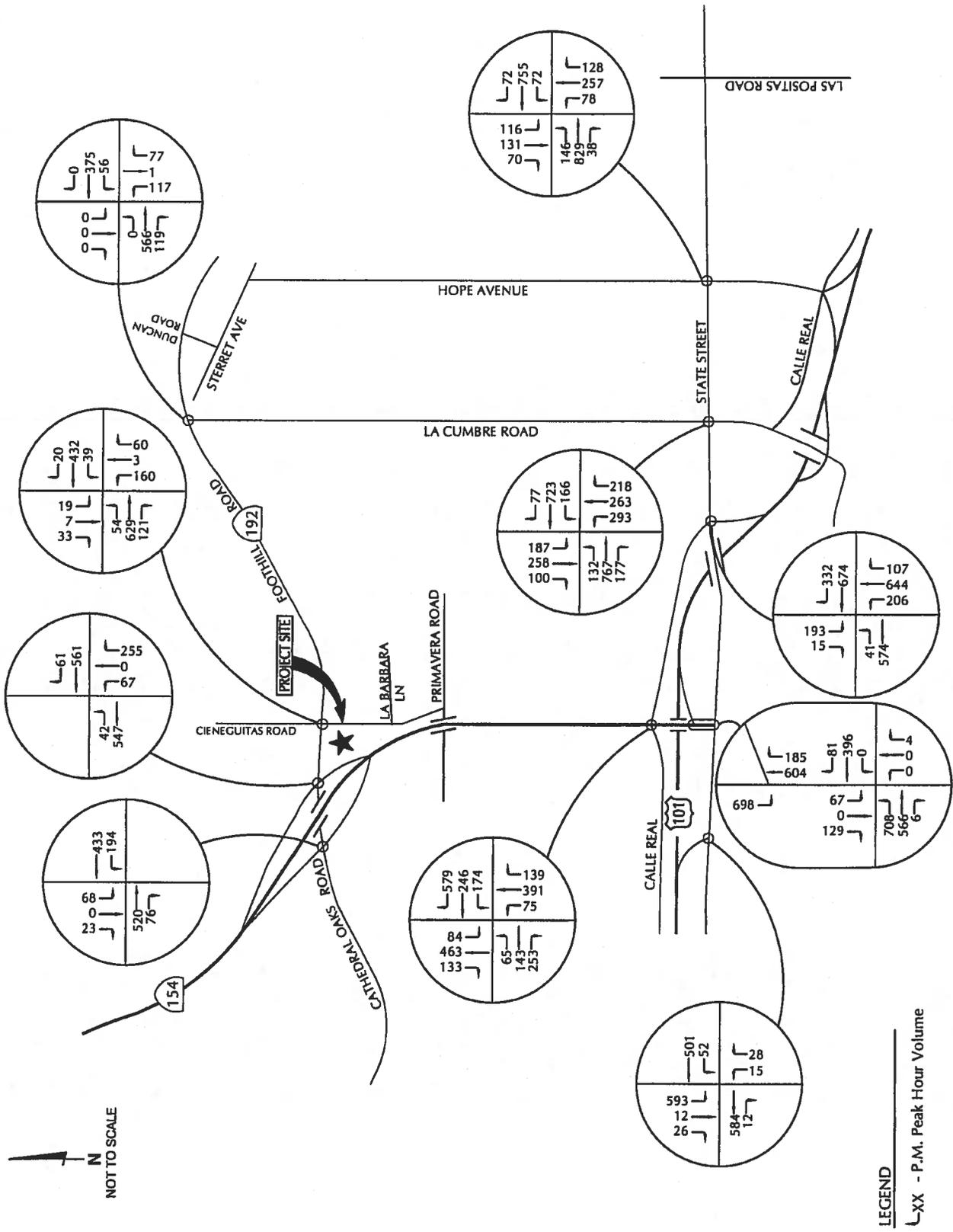
FIGURE 6



EXISTING + PROJECT A.M. PEAK HOUR TRAFFIC VOLUMES

LEGEND  
 LXX - A.M. Peak Hour Volume





EXISTING + PROJECT P.M. PEAK HOUR TRAFFIC VOLUMES

LEGEND  
 LXX - P.M. Peak Hour Volume



**Table 4  
Existing + Project A.M. Peak Hour Levels of Service**

Intersection	V/C / LOS		Change in V/C	Impact?
	Existing	Existing + Project		
SR 154 SB Ramps/Cathedral Oaks Road (a)	13.8 Sec./LOS B	16.6 Sec./LOS C	0.047 (b)	No
SR 154 NB Ramps/Foothill Road (a)	13.0 Sec./LOS B	14.4 Sec./LOS B	0.086 (b)	No
Cieneguitas Road/Foothill Road	0.514/LOS A	0.617/LOS A	0.103	No
SR 154/Calle Real	0.589/LOS A	0.599/LOS A	0.010	No
U.S. 101 SB On Ramp-State Street/SR 154	0.689/LOS B	0.705/LOS C	0.016	No
U.S. 101 SB Off Ramp/State Street	0.467/LOS A	0.489/LOS A	0.022	No
U.S. 101 NB Off Ramp-Calle Real/State Street	0.528/LOS A	0.538/LOS A	0.010	No
Foothill Road/La Cumbre Road	0.547/LOS A	0.554/LOS A	0.007	No
State Street/La Cumbre Road	0.608/LOS B	0.610/LOS B	0.002	No
State Street/Hope Avenue	0.515/LOS A	0.516/LOS A	0.001	No

(a) Unsignalized intersection LOS based on average delay per vehicle in seconds.

(b) Project V/C increase calculated based on County criteria. See Technical Appendix for calculations.

**Table 5  
Existing + Project P.M. Peak Hour Levels of Service**

Intersection	V/C / LOS		Change in V/C	Impact?
	Existing	Existing + Project		
SR 154 SB Ramps/Cathedral Oaks Road (a)	13.5 Sec./LOS B	15.5 Sec./LOS C	0.058 (b)	No
SR 154 NB Ramps/Foothill Road (a)	13.7 Sec./LOS B	14.4 Sec./LOS B	0.029 (b)	No
Cieneguitas Road/Foothill Road	0.597/LOS B	0.694/LOS B	0.097	No
SR 154/Calle Real	0.536/LOS A	0.556/LOS A	0.020	No
U.S. 101 SB On Ramp-State Street/SR 154	0.648/LOS B	0.658/LOS B	0.010	No
U.S. 101 SB Off Ramp/State Street	0.529/LOS A	0.539/LOS A	0.010	No
U.S. 101 NB Off Ramp-Calle Real/State Street	0.615/LOS B	0.615/LOS B	0.000	No
Foothill Road/La Cumbre Road	0.601/LOS A	0.614/LOS B	0.013	No
State Street/La Cumbre Road	0.679/LOS B	0.681/LOS B	0.002	No
State Street/Hope Avenue	0.663/LOS B	0.663/LOS B	0.000	No

(a) Unsignalized intersection LOS based on average delay per vehicle in seconds.

(b) Project V/C increase calculated based on County criteria. See Technical Appendix for calculations.

As shown in Tables 4 and 5 the study-area intersections are forecast to operate at LOS C or better with the addition of project traffic. The project would not generate project-specific impacts based on applicable City and County thresholds.

The existing northbound left-turn at the Foothill Road/Cieneguitas Road intersection is approximately 50 feet long. With project-added traffic, the northbound left-turn volumes is forecast to increase to 160 trips. Given the anticipated increase in left-turn volumes, it is recommended that the northbound left-turn lane on Cieneguitas Road be restriped to provide 125 feet of storage to accommodate future traffic volumes. This restriping could be implemented as part of the project's frontage improvements. The recommended left-turn storage length was developed using the HCM methodology for calculating vehicle queues assuming the Cumulative+Project traffic volumes at the Cieneguitas Road/Foothill Road intersection. Based on the HCM methodology, the 95th percentile queue for the northbound left-turn movement was 122 feet which was rounded to 125 feet. Additionally, a 125-foot left-turn lane, with a 60-foot bay taper, would allow the left-turn lane to transition back to the centerline of Cieneguitas Road before the project's northerly driveway. This design would better accommodate the minor left-turn movement from Cieneguitas Road to the site.

## **CUMULATIVE ANALYSIS**

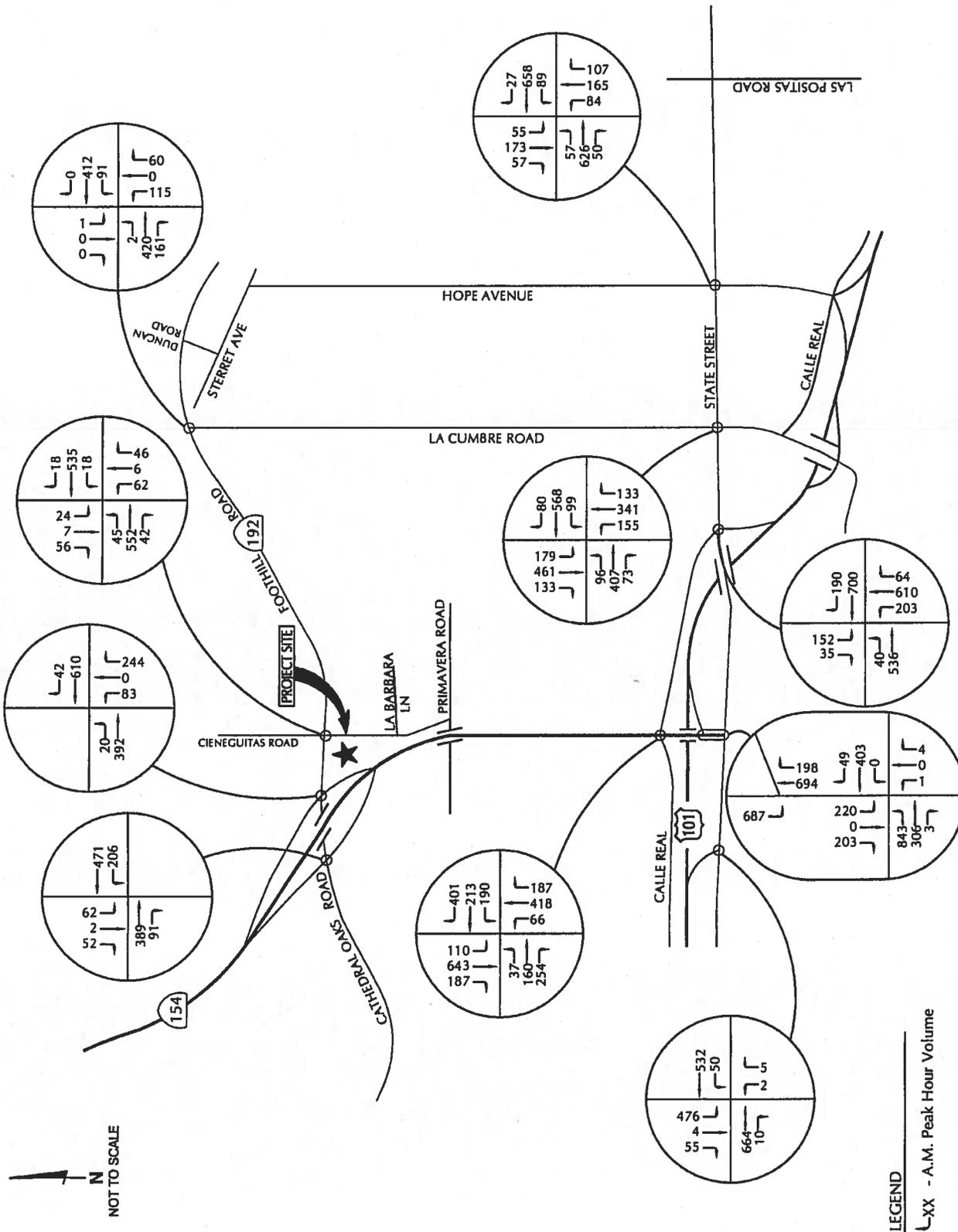
### **Traffic Forecasts**

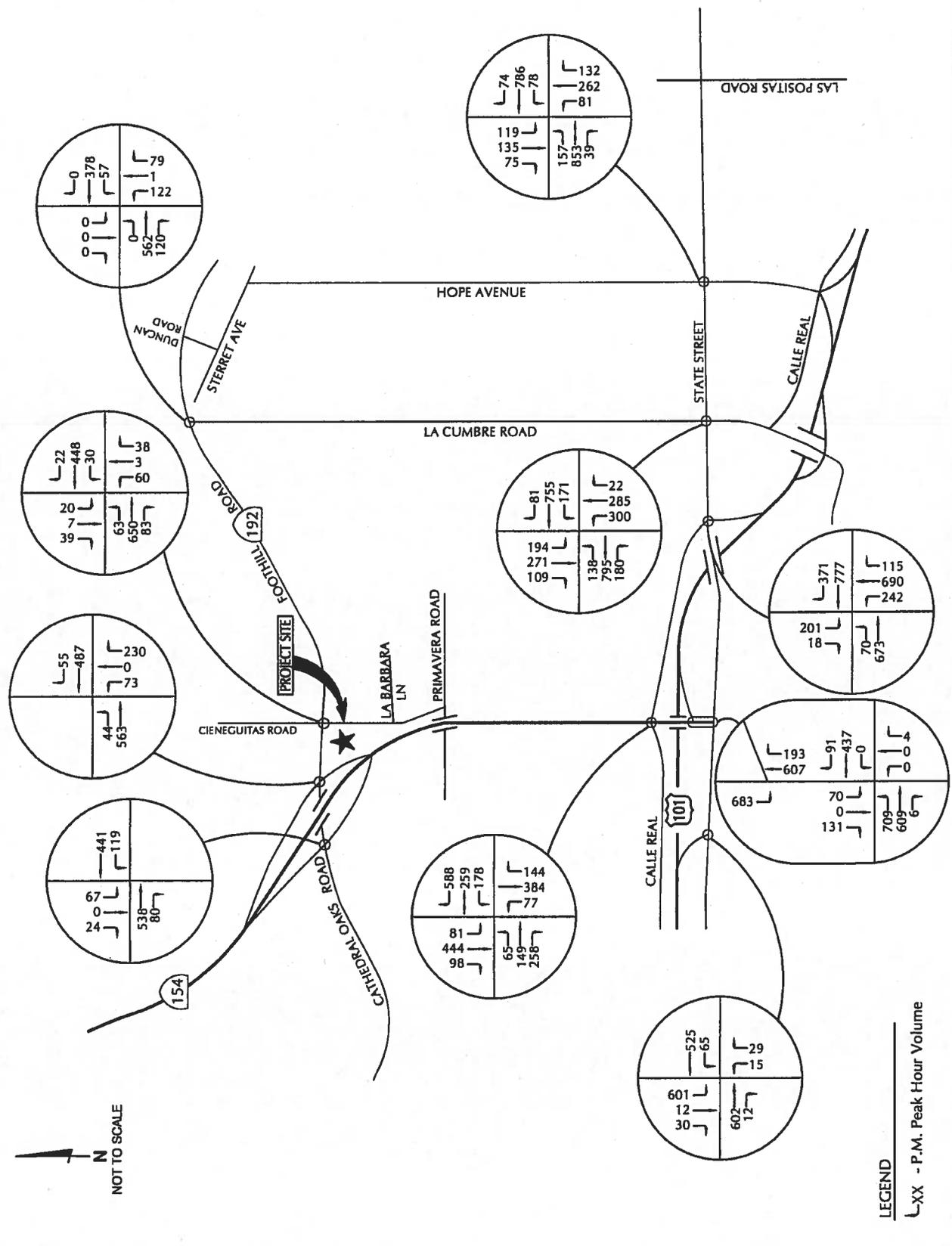
Cumulative traffic forecasts were developed based on a list of approved and pending projects provided by City of Santa Barbara and Santa Barbara County staff. ATE reviewed the lists and identified the projects that are located between SR 154 and the Las Positas Street corridor (City) and from SR154 to the Turnpike Road corridor (County) that would directly affect the study-area intersections and street network. Trip generation estimates for the cumulative projects were developed using rates presented in the ITE Trip Generation Manual (a calculation worksheet showing the identified projects and trip generation estimates is contained in the Technical Appendix). A 0.5% annual growth rate for a period of four years was also applied to account for traffic generated by the approved and pending developments that are not located in the immediate vicinity of the project site (total of 2% increase to existing volumes). Cumulative traffic volumes are shown on Figures 9 and 10. Cumulative + Project traffic volumes are shown on Figures 11 and 12.

### **Intersection Operations**

Tables 6 and 7 compare the Cumulative and Cumulative + Project levels of service for the study-area intersections and identify cumulative impacts.

CUMULATIVE A.M. PEAK HOUR TRAFFIC VOLUMES

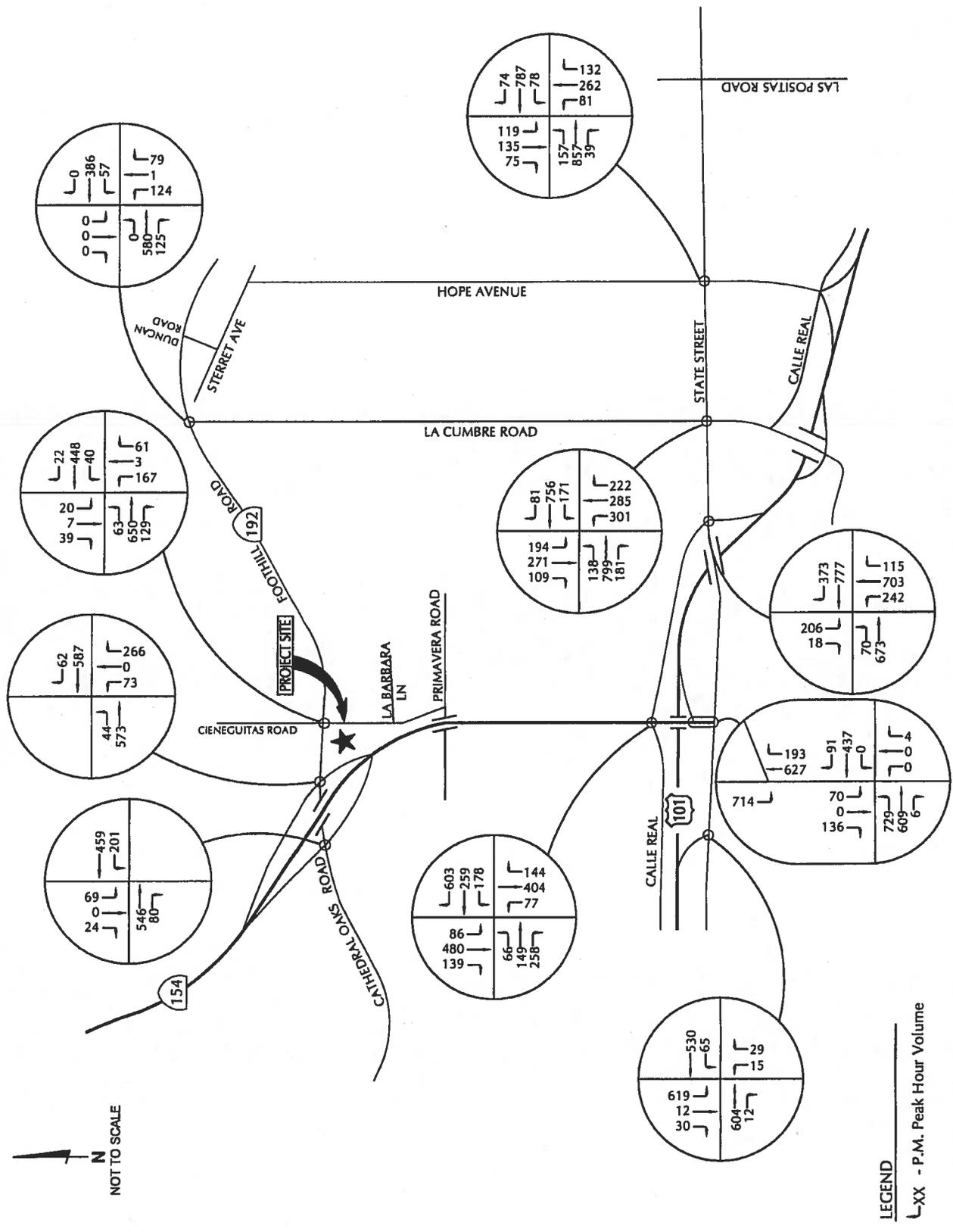




CUMULATIVE P.M. PEAK HOUR TRAFFIC VOLUMES

ASSOCIATED  
TRANSPORTATION  
ENGINEERS





CUMULATIVE + PROJECT P.M. PEAK HOUR TRAFFIC VOLUMES

ASSOCIATED  
 TRANSPORTATION  
 ENGINEERS

**Table 6  
Cumulative + Project A.M. Peak Hour Levels of Service**

Intersection	V/C / LOS		Change in V/C	Impact?
	Cumulative	Cumulative + Project		
SR 154 SB Ramps/Cathedral Oaks Road (a)	14.6 sec/LOS B	18.3 sec/LOS C	0.047 (b)	No
SR 154 NB Ramps/Foothill Road (a)	13.3 sec/LOS B	14.8 sec/LOS B	0.086 (b)	No
Cieneguitas Road/Foothill Road	0.531/LOS A	0.634/LOS B	0.103	No
SR 154/Calle Real	0.601/LOS A	0.601/LOS A	0.000	No
U.S. 101 SB On Ramp-State Street/SR 154	0.705/LOS C	0.730/LOS C	0.025	No
U.S. 101 SB Off Ramp/State Street	0.492/LOS A	0.514/LOS A	0.022	No
U.S. 101 NB Off Ramp-Calle Real/State Street	0.538/LOS A	0.548/LOS A	0.010	No
Foothill Road/La Cumbre Road	0.556/LOS A	0.573/LOS A	0.017	No
State Street/ La Cumbre Road	0.630/LOS B	0.630/LOS B	0.000	No
State Street/Hope Avenue	0.530/LOS A	0.531/LOS A	0.001	No

(a) Unsignalized intersection LOS based on average delay per vehicle in seconds.

(b) Project V/C increase calculated based on County criteria. See Technical Appendix for calculations.

**Table 7  
Cumulative + Project P.M. Peak Hour Levels of Service**

Intersection	P.M. Peak Hour LOS		Change in V/C	Impact
	Cumulative	Cumulative + Project		
SR 154 SB Ramps/Cathedral Oaks Road (a)	14.1 sec/LOS B	16.5 sec/LOS C	0.058 (b)	No
SR 154 NB Ramps/Foothill Road (a)	14.3 sec/LOS B	15.0 sec/LOS B	0.029 (b)	No
Cieneguitas Road/Foothill Road	0.622/LOS B	0.718/LOS C	0.096	No
SR 154/Calle Real	0.561/LOS A	0.581/LOS A	0.020	No
U.S. 101 SB On Ramp-State Street/SR 154	0.673/LOS B	0.693/LOS B	0.020	No
U.S. 101 SB Off Ramp/State Street	0.553/LOS A	0.564/LOS A	0.011	No
U.S. 101 NB Off Ramp-Calle Real/State Street	0.630/LOS B	0.640/LOS B	0.010	No
Foothill Road/La Cumbre Road	0.624/LOS B	0.637/LOS B	0.013	No
State Street/La Cumbre Road	0.696/LOS B	0.698/LOS B	0.002	No
State Street/Hope Avenue	0.684/LOS B	0.685/LOS B	0.001	No

(a) Unsignalized intersection LOS based on average delay per vehicle in seconds.

(b) Project V/C increase calculated based on County criteria. See Technical Appendix for calculations.

As shown in Tables 6 and 7, the study-area intersections are forecast to operate at LOS C or better under Cumulative and Cumulative + Project conditions. These service levels meet City and County standards. The project would not contribute to significant cumulative traffic impacts based on City and County thresholds.

## **SITE ACCESS**

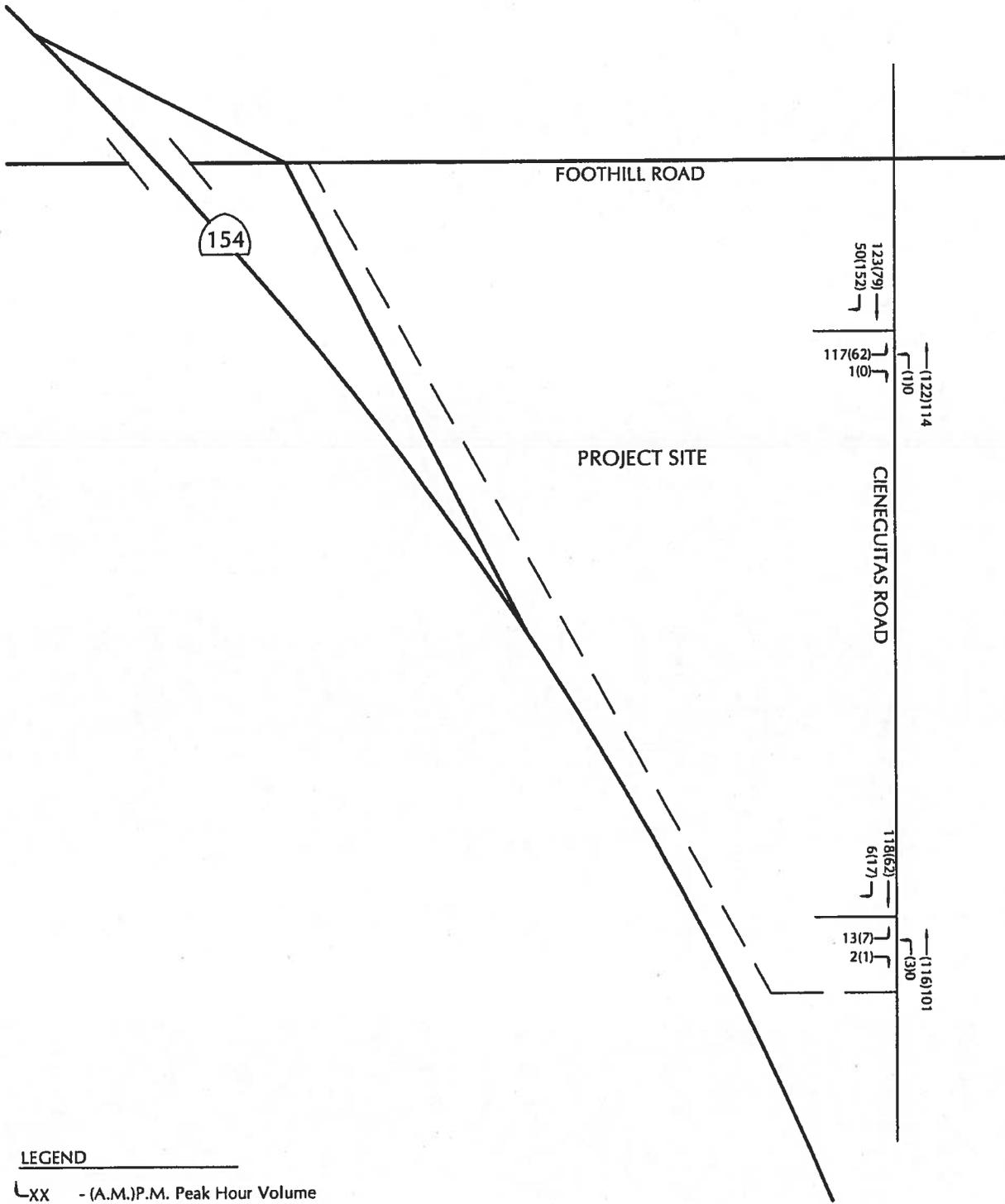
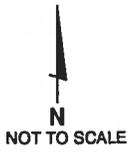
Access the project site is proposed via two driveways on Cieneguitas Road (see Figure 2 - Project Site Plan). Four existing driveways on Foothill Road, that served the previous site, would be removed as part of the project. Site access would be consolidated on Cieneguitas Road, therefore eliminating the potential conflicts of vehicles entering/exiting the site with through traffic and pedestrians on Foothill Road. The proposed access driveways on Cieneguitas Road are located approximately 195 feet and 630 feet south of the Foothill Road/Cieneguitas Road intersection. The driveways were evaluated based on their configurations and locations using Cumulative + Project peak hour traffic forecasts. Figure 13 shows the Cumulative + Project A.M. and P.M. peak hour traffic forecasts at the project driveways and the following text summarizes the operations for each location.

### Northern Driveway/Cieneguitas Road

The project would result in 215 trips using the northerly driveway during the A.M. peak hour period and 168 trips during the P.M. peak hour period. Delays for traffic entering/exiting the site would equate to LOS A-B operations during the peak hour periods. Given the distance of the driveway from the Foothill Road/Cieneguitas Road intersection and the projected traffic volumes, the driveway would accommodate project traffic and would not significantly interrupt traffic operations on Cieneguitas Road.

### Southern Driveway/Cieneguitas Road

The project would result in 27 trips using the southerly driveway during the A.M. peak hour period and 21 trips during the P.M. peak hour period. Delays for traffic entering/exiting the site would equate to LOS A operations during the peak hour periods. Given the distance of the driveway from the Foothill Road/Cieneguitas Road intersection and the projected traffic volumes, the driveway would accommodate project traffic and would not significantly interrupt traffic operations on Cieneguitas Road.



ASSOCIATED  
 TRANSPORTATION  
 ENGINEERS

CUMULATIVE + PROJECT DRIVEWAY VOLUMES

FIGURE 13

MMF - #08121

## FRONTAGE IMPROVEMENTS

As shown on the Project Site Plan (Figure 2) the project would install new landscaped parkways and pedestrian sidewalks on the Foothill Road and Cieneguitas Road frontages. The sidewalks and other frontage improvements have been designed according to the standards adopted under the Santa Barbara Pedestrian Master Plan. The project would also implement improvements to the MTD bus stops located on Foothill Road and Cieneguitas Road.

## PARKING ANALYSIS

### Proposed Parking Supply

The project is proposing to provide 225 parking spaces in surface parking lots located on the project site. The project is also proposing to utilize excess parking at the Sansum clinic site located on Pesetas Lane to accommodate some of the employee parking demands that would be generated at the Foothill Road site. A total of 15 reserved parking spaces would be provided at the Pesetas Lane site and an employee shuttle program would be implemented to transport employees from the Pesetas Lane site to the Foothill Road site. A parking study was completed with the original construction and subsequent building expansion of the Pesetas Lane site that indicated that the building demand requires 316 parking spaces. There are currently 346 spaces provided (22 ADA accessible spaces & 324 standard spaces) for a surplus of 30 spaces. Additional parking surveys conducted by ATE in 2011 showed that the peak demand at the Pesetas Lane site was 298 spaces (See Technical Appendix). The existing parking supply is well above this requirement, making it feasible to allocate the 15 spaces to the Foothill Road site. A detailed description of the employee shuttle program is contained in the Technical Appendix. Table 8 summarizes the parking supply for the project.

**Table 8  
Proposed Parking Supply**

<b>Parking Locations</b>	<b>Spaces Provided</b>
Foothill Road Site	225 Spaces
Pesetas Lane Site	15 Spaces
<b>Total Parking</b>	<b>240 Spaces</b>

### Zoning Ordinance Parking Requirements

The City of Santa Barbara's Zoning Ordinance requires 1 space per 250 feet of net floor area. The ordinance allows for a 30% reduction for buildings greater than 50,000 net square feet. Table 9 presents the Zoning Ordinance parking requirement for the project.

**Table 9  
Zoning Ordinance Parking Requirement**

Land Use	Size	Parking Rate	Spaces Required
Office	59,942 SF(a)	1 Space/250 SF	240 Spaces
30% Reduction for office buildings greater than 50,000 SF			-72 Spaces
<b>Required Spaces</b>			<b>168 Spaces</b>

(a) Parking requirement based on net square feet pursuant to Zoning Ordinance.

As shown in Table 9, the Zoning Ordinance parking requirement is 168 spaces. The proposed parking supply of 240 spaces would meet the City of Santa Barbara Zoning Ordinance parking requirement.

**Peak Parking Demand Forecasts**

Parking demand forecasts were developed for the project to evaluate the adequacy of the proposed parking supply. The peak parking demand for the surgery suites and the office uses were calculated using the data presented in the ITE Parking Generation<sup>1</sup> report for Surgery Centers and General Offices. Parking demands for the medical clinic were calculated using data collected at the existing Sansum Clinic located on Pesetas Lane. The ITE rate was not used for this component of the project as it is based on studies of small medical clinics that are not representative of the proposed project. The parking survey data collected at the Pesetas Lane site is contained in the Technical Appendix for reference. Table 10 shows the peak parking demand forecasts for the proposed project.

**Table 10  
Foothill Centre Sansum Medical Complex  
Peak Parking Demand Forecasts**

Land Use	Size	Peak Demand Rate	Peak Parking Demand	Parking Supply
Medical Clinic	41,774 SF	4.83 Spaces/1,000 SF	202 Spaces	-
Surgical Center	4 Rooms	5.67 Spaces/Room	23 Spaces	-
Office	4,420 SF	2.84 Spaces/1,000 SF	13 Spaces	-
<b>Total</b>			<b>238 Spaces</b>	<b>240 Spaces</b>

(a) Parking demands based on gross square feet.

<sup>1</sup> Parking Generation, Institute of Transportation Engineers, 4<sup>th</sup> Edition.

The data presented in Table 10 indicate that the peak parking demand for the project is 238 spaces. The 240 spaces provided for the project would satisfy this peak parking demand estimate.

## **MITIGATION MEASURES**

The traffic analysis found that the project would not significantly impact the study-area intersections. Mitigations are therefore not required. It is recommended, however, that the northbound left-turn lane on Cieneguitas Road at the Foothill Road intersection be restriped to provide 125 feet of storage to accommodate future traffic volumes. This restriping could be implemented as part of the project's frontage improvements.

The recommended left-turn storage length was developed using the HCM methodology for calculating vehicle queues assuming the Cumulative + Project traffic volumes at the Cieneguitas Road/Foothill Road intersection. Based on the HCM methodology, the 95th percentile queue for the northbound left-turn movement was 122 feet which was rounded to 125 feet. Additionally, a 125-foot left-turn lane, with a 60-foot bay taper, would allow the left-turn lane to transition back to the centerline of Cieneguitas Road before the project's northerly driveway. This design would better accommodate the minor left-turn movement from Cieneguitas Road to the site.

## **CONGESTION MANAGEMENT PROGRAM ANALYSIS**

The Santa Barbara County Association of Governments (SBCAG) has developed a set of traffic impact thresholds to assess the impacts of land use decisions made by local jurisdictions on regional transportation facilities located within the Congestion Management Plan (CMP) roadway system. The following guidelines were developed by SBCAG to determine the significance of project-generated traffic impacts on the regional CMP system.

### **Impact Guidelines**

1. For any roadway or intersection operating at "Level of Service" (LOS) A or B, a decrease of two levels of service resulting from the addition of project-generated traffic.
2. For any roadway or intersection operating at LOS C, project-added traffic that results in LOS D or worse.
3. For intersections within the CMP system with existing congestion, the following table defines significant impacts.

Level of Service	Project-Added Peak Hour Trips
LOS D	20
LOS E	10
LOS F	10

4. For freeway or highway segments with existing congestion, the following table defines significant impacts.

Level of Service	Project-Added Peak Hour Trips
LOS D	100
LOS E	50
LOS F	50

### Potential Impacts

Intersections. The following study-area intersections are located within the CMP system:

- SR 154/Calle Real
- U.S. Highway 101 SB Off Ramp/State Street
- U.S. Highway 101 SB On-Ramp-State Street/SR 154
- U.S. Highway 101 NB Off-Ramp-Calle Real/State Street
- State Street/La Cumbre Road
- State Street/Hope Avenue
- Foothill Road (SR 192)/La Cumbre Road

As shown in Tables 4, 5, 6, and 7, the CMP intersections are forecasts to operate at LOS C or better under Existing + Project and Cumulative + Project traffic volumes. The Foothill Centre Project would therefore not generate significant impacts to the CMP intersections.

Freeways. According to the CMP monitoring report, the segments of U.S. Highway 101 located east and west of Route 154 operate at LOS D. The CMP threshold for freeway impacts is 100 trips for LOS D. The project is forecast to add 58 A.M. and 44 P.M. peak hour trips to U.S. Highway 101 east of SR 154; and 72 A.M. and 59 P.M. peak hour trips to U.S. Highway 101 west of SR 154. The addition of Foothill Centre Project would not significantly impact the operation of U.S. Highway 101 based on the adopted criteria.

■ ■ ■

## REFERENCES AND PERSONS CONTACTED

### Associated Transportation Engineers

Scott A. Schell, AICP, PTP, Principal Transportation Planner  
Dan Dawson, PTP, Supervising Transportation Planner  
Matthew Farrington, Transportation Planner I

### References

Highway Capacity Manual, Transportation Research Board, National Research Council, 2010.

Highway Design Manual, Caltrans, Sixth Edition, September 2006.

Parking Generation, Institute of Transportation Engineers, 4<sup>th</sup> Edition, 2010.

Shared Parking, Urban Land Institute, 2<sup>nd</sup> Edition, 2005.

Trip Generation, Institute of Transportation Engineers, 8<sup>th</sup> Edition, 2008.

### Persons Contacted

Lawson, Peter D. City of Santa Barbara  
Ritterbeck, J. County of Santa Barbara  
Robertson, William, County of Santa Barbara

## TECHNICAL APPENDIX

### CONTENTS:

LEVEL OF SERVICE DEFINITIONS

TRAFFIC COUNT DATA

INTERSECTION LEVEL OF SERVICE CALCULATION WORKSHEETS

- Reference 1 SR 154 SB Ramps/Cathedral Oaks Road (SR 192)
- Reference 2 SR 154 NB Ramps/Foothill Road (SR 192)
- Reference 3 Foothill Road (SR 192)/Cieneguitas Road
- Reference 4 SR 154/Calle Real
- Reference 5 U.S. Highway 101 SB Off-Ramp/State Street
- Reference 6 U.S. Highway 101 SB On-Ramp-SR 154/State Street
- Reference 7 Foothill Road (SR 192)/La Cumbre Road
- Reference 8 State Street/La Cumbre Road
- Reference 9 State Street/Hope Avenue
- Reference 10 U.S. Highway 101 NB Off-Ramp-Calle Real/State Street

PROJECT V/C INCREASE CALCULATIONS

LOCAL TRIP GENERATION STUDY DATA

CUMULATIVE PROJECT TRIP GENERATION

EMPLOYEE PARKING SHUTTLE OPERATIONS

SANSUM PARKING SURVEY DATA